

L 63723-33 EWT(m)/EPF(s)/EWP(1)/T RFL NW/RM

ACCESSION NR: AP5013756

UR/0020/65/162/002/0364/0365

AUTHOR: Amerik, Yu.B.; Krentsel', B.A.; Shishkina, M. V.

TITLE: Effect of the application of strong electrostatic fields in the course of the polymerization of methyl methacrylate on the structure of the polymer formed

SOURCE: AN SSSR. Doklady, v. 162, no. 2, 1965, 364-365

TOPIC TAGS: polymethylmethacrylate, polymer structure, polymerization, electrostatics, polymer

ABSTRACT: In a recent article, Yu. B. Amerik, B. A. Krentsel', and M. V. Shishkina briefly review several non-Soviet studies on the preparation of poly(methyl methacrylate) (PMMA) mainly of predetermined structures (syndiotactic, isotactic, isotactic-syndiotactic block copolymers).

The authors question the conclusion of F. A. Bovey* that there is no difference between the activation entropies for syndiotactic and isotactic monomer placement and that this placement is solely determined by the

Card 1/5

L 63783-65

ACCESSION NR: AP5013756

difference in the activation enthalpies for propagation of these structures. To demonstrate the role of activation entropy in the structural formation of PMMA, methyl methacrylate (MMA) was polymerized in bulk and in toluene solution in strong electrostatic fields (10^4 — 10^5 v/cm) in special reactors. Benzoyl peroxide (1 mol%) was used as initiator. The structure of PMMA formed was determined from its glass temperature (T_g) and from the values of an arbitrary parameter J. Calculations of J-values were based on equations provided by W. E. Goode** and calculated from IR spectra. Polymerization conditions and values for T_g and J obtained in electrostatic fields with different intensities are given in Table 1.

Comparison of these data with the T_g and J values given by Goode in Table 2 below indicates that: 1) polymerization in strong electrostatic fields yields PMMA with an increased percentage of syndiotactic structure; and 2) electrostatic fields affect the structure of PMMA to a lesser degree in toluene solution than in bulk.

Card 2/5

L 63783-65

ACCESSION NR: AP5013756

Table 1. Polymerization conditions and values

Polymerization temperature, °C	Field intensity, v/cm	Glass temperature, °C	Infrared J value
Bulk polymerization			
50	0.0	106	101
50	0.0	106	97
50	2.0×10^4	110	107
50	2.5×10^4	111	106
50	4.0×10^4	113	112
Solution polymerization			
50	0.0	108	103
50	0.0	107	103
50	6.0×10^4	112	106
50	6.0×10^4	112	107
40	7.0×10^4	113	109

Card 3/5

L 63783-65

ACCESSION NR: AP5013756

Table 2. Properties of amorphous polymers of methyl methacrylate

Type	Suggested chain configuration	Glass temp., °C	Density at 30°C, g/ml	Infrared J value
I	Syndiotactic	115	1.19	100—115
II	Isotactic	45	1.22	25—35
III	Isotactic-syndiotactic	60—95	1.20—1.22	40—80
Conventional	Essentially random	104	1.188	95—100

Strong electrostatic fields affect not only the polymer structure but also the MMA polymerization kinetics and the molecular weight of the polymer. The authors state that MMA polymerization in stronger electrostatic fields will yield PMMA specimens with a predominantly syndiotactic structure.

Card 4/5

L 63783-65

ACCESSION NR: AP5013756

* Bovey, F. A. Polymer NMR spectroscopy. III. The rates of the propagation steps in the isotactic and syndiotactic polymerization of methyl methacrylate. Journal of polymer science, v. 46, 1960, 59-64.

** Goode, W. E., F. H. Owens, R. P. Fellmann, W. H. Snyder, and J. E. Moore. Crystalline acrylic polymers. I. Stereospecific anionic polymerization of methyl methacrylate. Journal of polymer science, v. 46, 1960, 317-331.

Orig. art. has: 2 formulas, 2 tables.

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A.B. Topchiyeva Akademii nauk SSSR (Institute of Petro-Chemical Synthesis, Academy of Sciences SSSR)

SUBMITTED: 03Nov64

ENCL: 00

SUB CODE: MT,GC

NR REF SOV: 000

OTHER: C06

FSB v.1, no.9

Card 5/5

8871-66 EWT(m)/EWP(j)/T RM

ACC NR: AP5025960

SOURCE CODE: UR/0190/65/007/010/1713/1718

AUTHOR: Amerik, V. V.; Krentsel', B. A.; Shishkina, M. V.

ORG: Institute of Petrochemical Synthesis, AN SSSR (Institut neftekhimicheskogo sinteza AN SSSR)

TITLE: Investigation of the crotonaldehyde⁷ polymerization reaction

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 10, 1965, 1713-1718

TOPIC TAGS: aliphatic aldehyde, polymerization, catalytic polymerization, polymerization catalyst, polymerization kinetics, polymer structure

ABSTRACT: The polymerization of crotonaldehyde was investigated to help elucidate the effect of the presence of different substituents on the polymerization of acrolein. Polymerizations were run with an anionic catalyst under nitrogen atmosphere in the -80 to -60°C temperature range. Sodium methoxide and sodium naphthalene complex was shown to be an effective catalyst for polymerization on the carbonyl group. Polymerization temperature significantly affects not only the process kinetics but the structure of the polymer chain. Polymer

Card 1/2

UDC: 66.095.26+678.744

ACC NR: AP5025960

yield and polymer molecular weight increased with reduction of temperature to -10 to -20° . The content of the free aldehyde group in the polymer decreased while the $\text{CH}_3\text{CH}=\text{CH}-$ side group content increased with reduction of temperature. Maximum yield was obtained with monomer concentration of 3 mol/l. The polymer obtained was predominantly poly-acetalic, molecular weight 1,000 to 10,000. The absence of $\text{CH}_2\text{CH}=\text{CH}-\text{O}$ units in the polymer was established by ozonolysis. The effect of solvent on polymer yield and structure are to be studied further. Orig. art. has: 3 equations, 4 tables and 5 figures.

SUB CODE: MT, OC/ SUBM DATE: 10Nov64/ ORIG REF: 001/ OTH REF: 011

Card 2/2

rols

L 00536-67 EWT(m)/EWP(j) IJP(c) RM
ACC NR: AP6035590 SOURCE CODE: UR/0364/66/002/011/1332/1335

AUTHOR: Raskina, E. M.; Perekal'skaya, L. M.; Davydov, B. E.; Shishkina, M. V. 37

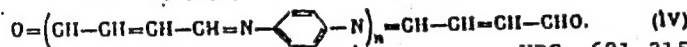
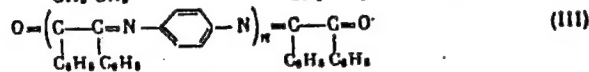
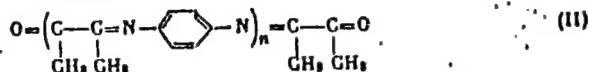
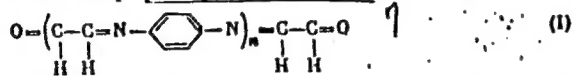
ORG: Institute of Petrochemical Synthesis im. A. V. Topchiyev, Academy of Sciences
SSSR, Moscow (Institut neftekhimicheskogo sinteza Akademii nauk SSSR) B

TITLE: Preparation and study of complexes of Schiff bases

SOURCE: Elektrokimiya, v. 2, no. 11, 1966, 1332-1335

TOPIC TAGS: organic semiconductor, semiconducting polymer, charge transfer complex

ABSTRACT: Charge transfer complexes of polymeric Schiff bases and bromine have been prepared and the effect of chemical structure on the physical, chemical and electrical properties of these complexes has been studied. The polymers (I-IV) were prepared by polycondensation of p-phenylenediamine with various dicarboxylic compounds:



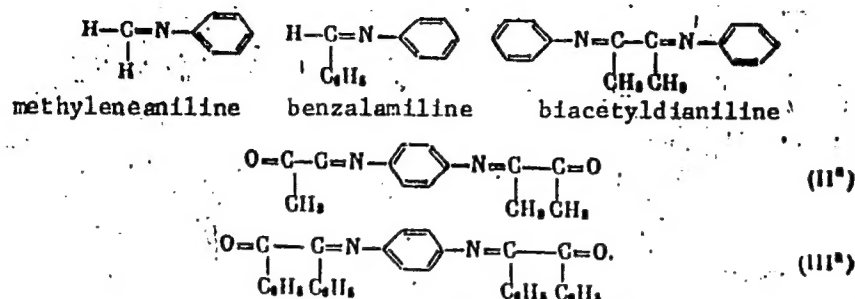
UDC: 621.315.592:547

Card 1/3

L 08536-67

ACC NR: AP6035590

For comparative purposes, analogous low-molecular-weight compounds were also prepared:



The complexes were prepared by treatment of the compounds with gaseous bromine. The results of density, x-ray-diffraction, thermal-stability, and IR and EPR spectroscopic measurements are described briefly in the source. Electrical measurements showed that for complexes of the monomeric compounds (benzalaniline, biacetylaniline, but not methylenedianiline), resistivity did not drop below 10^{11} ohm cm. On going to the dimers II^a and III^a , resistivity dropped by more than six orders of magnitude. However, on going to the corresponding polymers, resistivity changed but little. Differences in polymer structure had a marked effect for complexes with

Card 2/3

L 00536-67

ACC NR: AP6035590

a bromine content no higher than 21—35%, but had little effect at higher bromine content. For most complexes, the activation energy for conduction was lower for the low-temperature region than for the high-temperature region, but the reverse was true in a number of cases, e.g., the complex of II (64% bromine). The temperature behavior of resistivity was interpreted in terms of macromolecular coplanarity. Orig. art. has: 6 formulas. D

SUB CODE: 07, 20/ SUBM DATE: 17Nov65/ ORIG REF: 003/ OTH REF: 004/ ATL PRESS: 5103

Card

3/3

egh

GRABER, J. J. "The viscosity of liquids within a

wide temperature range. Tetrat. i skaper. khim. i no. 1:553-553
185. (MIRA 18:10)

2. "The viscosity of liquids within a

SHED KAMA, N. I.

"Investigating the Polarimetric Method of Determining Aluminum With
Aluminum." Cand Chem Sci, Ural Polytechnic Inst, Sverdlovsk, 1958. (RZhKhim,
No 6, Nov 55)

So: Ser. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations
Defended at USSR Higher Educational Institutions. (15)

137-58-6-11837

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 93 (USSR)

AUTHORS Tsekhanskiy, M.I., Shishkina, N.I., Khusnoyarov, K.B.

TITLE Changes in the Radioactivity of Nonmetallic Inclusions in Steel
Upon Electrolysis (Izmeneniye radioaktivnosti nemetalliche-
skikh vklyucheniye v stali pri elektrolize)

PERIODICAL Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chernykh
metallov, 1957, Nr 3, pp 102-108

ABSTRACT: Isotope Ca^{45} was introduced into runner brick during the
pouring of 500-kg ingots of rimmed steel. Specimens to be
used for separation of nonmetallic inclusions (NI) by the elec-
trolytic method were selected from strip 32-mm thick, and
decomposition of the carbides in the NI precipitate was done
with the aid of $KMnO_4$ and ammonium persulfate. Preliminary
investigation of the ratio of active refractory to various oxidiz-
ing reactants revealed the absence of change in the activity and
weight of the refractory upon treatment with these reactants.
It was established that the amount of NI resulting from destruc-
tion of the refractories does not exceed 2.8%, while 46% of all
the samples measured had zero activity. Measurement of the

Card 1/2

137-58-6-11837

Changes in the Radioactivity (cont.)

activity of the NI before and after separation from the metal, and also measurement of the activity of NI mechanically separated from steel and of slags having compositions close to those of the NI (the measurement being done before and after treatment by various electrolytes) showed that the refractory does not lose its activity in the process of electrolyte treatment, while the products of its reaction with molten metal are destroyed and lose their activity, reduction in the activity of the slags under these conditions being from 519 to 421-90 impulses per min. Further treatment with electrolytes and reactants to destroy the carbides of slags taken from the surface of the metal in the mold confirmed the results obtained and showed that the loss of weight by the slag, attaining 9-18%, occurs primarily during the process of electrolysis. Bibliography: 8 references.

A.Sh.

1. Steel--Production
2. Steel--Impurities
3. Carbides--Decomposition
4. Electrolysis--Applications
5. Refractory materials--Chemical reactions
6. Steel--Chemical reactions
7. Calcium isotopes (Radioactive)--Applications

Card 2/2

137-58-6-13873

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 380 (USSR)

AUTHOR: Shishkina, N.I.

TITLE: Determination of Small Quantities of Aluminum in Steel (Opre-deleniye malykh kolichestv alyuminiya v stali)

PERIODICAL: Byul. nauchno-tekhn. inform. Ural'skiy n.-i. in-t chernykh metallov. 1957, Nr 3, pp 173-182

ABSTRACT: A technique for the determination of Al in steel with aluminone (I) is proposed. Conditions of colorimetric analysis of Al with I are critically investigated. One g of steel is dissolved in 10 cc HCl (1:1) and oxidized with HNO₃ (sp. gr. 1.40); the solution is evaporated down to 5 cc and poured into a 100-cc flask with 30 cc of 30% NaOH or KOH solution, raised up to the mark with water, and filtered. Five cc of filtrate are neutralized to phenolphthalein with HCl (1:1), 1-2 drops of HN₄OH (1:1) are added until the appearance of a pink coloration, then 10 drops of 60-80% CH₃COOH, and 2 cc of 0.1% solution I are added, and the whole is brought to 100 cc with water. After one hour it is measured photometrically with a green light filter.

Card 1/2

With up to 40 γ of Al in 100 cc of solution, the coloration

137-58-6-13873

Determination of Small Quantities of Aluminum in Steel

complies with Beer's Law. The results of the photometric method agree well with the data obtained by five other methods. By means of the photometric method the Al contents of 15-20 test samples of steel can be determined in one working day.

Z.G.

1. Steel--Properties 2. Aluminum--Determination 3. Steel--Colorimetric analysis

Card 2/2

Shishkina, N.I.
AUTHORS: Tselhanskiy, M.I., Shishkina, N.I., Khushoyarov, K.B. 32-12-20/71

TITLE: The Investigation of the Radioactivity of Non-Metallic Impurities in Steel During Electrolysis (Izucheniye radioaktivnosti nemetallicheskikh vkhlyucheniye v stali pri elektrolize).

PERIODICAL: Zavodskaya Laboratoriya, 1957. Vol. 23, Nr 12, pp. 1440-1442 (USSR)

ABSTRACT: The present paper discusses the possibility of determining impurities in the steel melt during the work of casting by means of radioactive isotopes. For this purpose the radioactive isotope Ca^{45} was introduced into the refractory material of foundry equipments. From the cast metal block samples were taken at various places after rolling, which were investigated electrolytically as to their content of non-metallic impurities. In the same manner also the samples were taken of the radioactivated refractory material of the foundry system. It was found in this connection that, after a number of casting processes, the radioactivity of the refractory material remained unchanged, and that the non-metallic impurities of the cast metal, which were precipitated in the metal solution, showed hardly any radioactivity after electrolysis. A slight radioactivity of 1-1.6% could in this case be explained by the wear (destruction of the surface) of the radioactivated refractory material. In the same manner

Card 1/2

The Investigation of the Radioactivity of Non-Metallic
Impurities in Steel During Electrolysis

32-12-20/71

the film (slag) forming on the boiling metal was investigated. From the table of results it may be seen that the slags, which were specially radioactivated, passed into the solution with electrolysis and lost 20% of their radioactivity; otherwise, slags behaved in the same manner as the non-metallic impurities in the metal. The conclusion is drawn that, as may be seen from the present paper, the application of the Ca-isotope is unsuited as indicator for non-metallic impurities in metal. Statements hitherto made in publications to the effect that non-metallic impurities detectable in cast metal are only in a small degree due to the wear products of the refractory materials of foundry plants found no confirmation. There are 3 tables and 2 Slavic references.

ASSOCIATION: Ural'sk Scientific Research Institute for Iron Metallurgy
(Ural'skiy nauchno-issledovatel'skiy institut chernoy metallurgii).

AVAILABLE: Library of Congress

Card 2/2 1. Steel-Impurities-Determination 2. Electrolytic investigations
3. Radioactive isotopes-Applications


S/137/61/000/012/133/149
A006/A101

AUTHORS: Shishkina, N.I., Tsekhanskiy, M.I., Karel'skaya, T.A.

TITLE: The behavior of radioactive isotopes during the separation of non-metallic impurities from steel by the method of electrolytic dissolving

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 36-37, abstract 12I287 ("Byul. nauchno-tekhn. inform. Ural'skiy n.-1. in-t chern. metallov", 1960, no. 8, 96 - 102)

TEXT: A stable radioactive tracer was selected. Slags of six different chemical compositions were investigated; they contained Ca, Ce, W and Zr radioactive isotopes. During the separation of radioactive-isotope-containing non-metallic impurities from the steel, and during the processing of deposits by various reagents, their components and the radioactive isotopes are dissolved. As a result the aforementioned isotopes can not be used as tracers to determine the content of non-metallic impurities in steel. It is pointed out that the



Card 1/2

The behavior of radioactive isotopes ...

S/137/61/000/012/133/149
A006/A101

existing methods of determining the amount and composition of non-metallic impurities do not yield data characteristic of the true composition of non-metallic impurities.

I. Nikitina

[Abstracter's note: Complete translation]

Card 2/2

PETROV, K.M.; DYAKONOV, V.I.; FADEYEV, I.G.; SEMENENKO, P.P.; KRYUKOV, L.G.;
Prinimali uchastiye: PASTUKHOV, A.I.; SHISHKINA, N.I.;
PAZDNIKOVA, T.S.; CHIRKOVA, S.N.; KAREL'SKAYA, T.A.;; LOPTEV, A.A.;
DZEMYAN, S.K.; ISUPOV, V.F.; BELYAKOV, A.I.; GUDOV, V.I.;
SUKHMAN, L.Ya.; SLESAREV, S.G.; GOLOVANOV, M.M.; GLAGOLENKO, V.V.;
ISUPOVA, T.A.; ZYABLITSEVA, M.A.; KAMENSKAYA, G.A.; POMUKHIN, M.G.;
UTKINA, V.A.; MANEVICH, L.G.

Vacuum treatment of alloyed open hearth steel. Stal' 22 no.2:113-
117 F '62. (MIRA 15:2)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov
(for Pastukhov, Shishkina, Pazdnikova, Chirkova, Karel'skaya,
Loptev, Dzemyan). 2. Metallurgicheskii kombinat im. A.K. Serova
(for Isupov, Belyakov, Gudov, Sukhman, Slesarev, Golovanov,
Glagolenko, Isupova, Zyablitseva, Kamenskaya). 3. 6-y Gosudar-
stvennyy podshipnikovyy zavod (for Pomukhin, Utkina, Manevich).
(Steel—Metallurgy)
(Vacuum metallurgy)

TEPLOUKHOV , Valeriy Ivanovich; SHISHKINA, N.I., retsenzent; KRYZHOVA,
M.L., red. izd-va; MAL'KOVA, N.T., tekhn. red.

[Analysis of open-hearth and electric furnace slags] Analiz marte-
novskikh i elektropechnykh shlakov. Sverdlovsk, Metallurgizdat,
1962. 76 p. (MIRA 15:6)

(Slag--Analysis)

TSEKHANSKIY, M.I., kand.tekhn.nauk; SHISHIKINA, N.I., kand.khimicheskikh nauk; Prinimali uchastiye: KHUSNOYAROV, K.B.; KAREL'SKAYA, T.A.

Radiometric study of the effect of refractories on the presence of nonmetallic inclusions in steel. Stal' 22 no.1:66-67 Ja '62.
(MIRA 14:12)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.
(Steel--Defects)
(Radioisotopes--Industrial applications)

ROMANOVA, V.S.; SHISHKINA, N.I.

Determination of cobalt by the potentiometric method. Zav.
lab. 31 no.8:945 '65. (MIRA 18:9)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.

1. Monthly List of Russian Accessions, 1.
2. Monthly List of Russian Accessions, 1.
3. Monthly List of Russian Accessions, 1.
4. Monthly List of Russian Accessions, 1.
5. Monthly List of Russian Accessions, 1.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

SHISHKINA, N., kandidat tekhnicheskikh nauk.

Determining sausage output by the weight of dry substances. Mias.ind.
SSSR 25 no.2:31-32 '54. (MLRA 7:5)
(Sausages)

LAVROVA, L.P., kandidat tekhnicheskikh nauk; LYASKOVSKAYA, Yu.N., kandidat tekhnicheskikh nauk; SHISHKINA, N.N., kandidat tekhnicheskikh nauk; DYKLOP, V.K., kandidat biologicheskikh nauk; IVANOVA, A.A., mladshiy nauchnyy sotrudnik; KALENOVA, M.S.; DUBROVINA, L.I.; POLETAYEV, T.N.

Protective coating for sausages. Trudy VNIIMP no.7:48-67 '55.
(MLRA 9:8)
(Sausages) (Protective coatings)

SHISHKINA, N.

✓ Electrical characteristics of meat products during treatment in an electrical field of high voltage. B. Telishevskii and N. Shishkina. *Myasnaya Ind. S.S.S.R.* 27, No. 3, 13-14(1956).—The rate of heating lard (4-5% moisture)

in an elec. field of high voltage is much greater than that of muscle tissues (73-8% moisture). Dielec. penetration of meat products under the same exptl. conditions is related directly to the moisture content of the products. E. W.

Med 3

SHISHKINA, N., kandidat tekhnicheskikh nauk; KALENOVA, M., inzhener.

~~Production of smoked pork products.~~ Mias.ind.SSSR 28 no.1:6-8
'57. (MLRA 10:3)

(Meat, Smoked)

SHISHKINA, N.N., kand.tekhn.nauk; SOLOV'YEV, V.I., kand.khimicheskikh nauk
KURKO, V.I., kand.tekhn.nauk; DUBROVINA, L.I., mladshiy nauchnyy
sotrudnik; SHCHEGOLEVA, O.P., mladshiy nauchnyy sotrudnik.

Intensified coloration of sausages cooked in an alternating
electric field of high frequency, and the frying of sausages
with the use of smoke solutions. Trudy VNIIMP no.9:50-62
'59. (MIRA 13:8)

(Sausages)

SHISHKINA, N.N., kand. tekhn. nauk; ZBANDUTO, L.L., inzh.; KHOKHLOVA,
Z.V., inzh.; KUKHARKOVA, L.L., starshiy nauchnyy sotrudnik;
IL'YASHENKO, M.A., kand. veterin.nauk

Investigating the physicochemical and bacteriological changes
in packaged meat. Trudy VNIIMP no.12:71-82 '62. (MIRA 18:2)

BOLOTINA, F.Ye.; GAMBAKIAN, Kh.P.; DENISOVA, G.A.; DUBROVINA, L.I.;
KOZHINA, I.S.; KYURKCHAN, V.N.; MAKAROVA, T.I.; PAVLOVA,
U.G.; REZVETSOV, O.A.; SMIRNOVA, V.V.; SURZHIN, S.N.,
kand. tekhn. nauk; TAMAMSHYAN, S.G.; TRUSOVA, S.A.;
FILOGRIYEVSKAYA, Z.D.; CHINENOVA, E.G.; SHISHKINA, N.N.;
IL'IN, M.M., zasl. deyatel' nauki RSFSR, doktor biol. nauk
prof., red.; PRITYKINA, L.A., red.; ZARSHCHIKOVA, L.N.,
tekhn. red.

[Spice and aromatic plants of the U.S.S.R. and their use
in the food industry] Priano-aromaticheskie rasteniya SSSR
i ikh ispol'zovanie v pishchevoi promyshlennosti. Moskva,
Pishchepromizdat, 1963. 430 p. (MIRA 17:2)

SHISHKINA, N.N., kand. tekhn. nauk; KHOKHLOVA, Z.V.; ZBANDUTO, L.I.

Synthetic sausage casings. Trudy VNIIMP no.16:156-160 '64.
(MIRA 18:11)

1. Starshiye inzhenery Vsesoyuznogo nauchno-issledovatel'skogo
instituta myasnoy promyshlennosti (for Khokhlova, Zbanduto).

SHISHKINA, N.N., kand. tekhn. nauk; ZBANDUTO, L.L.

Production of frozen second course dishes in polymer films.
Trudy VNIIMP no.16:161-167 '64. (MIRA 18:11)

1. Starshiy inzhener Vsesoyuznogo nauchno-issledovatel'skogo
instituta myasnoy promyshlennosti (for Zbanduto).

SHISHKINA, N.N., kand. tekhn. nauk; ZBANDUTO, L.L., inzh.;
KHOZHLOVA, Z.V., inzh.; IL'YASHENKO, M.A., kand. veter. nauk

Studying the physicochemical and bacteriological changes in
packaged ready-to-cook meat products. Trudy VNIIMP no.16:168-
182 '64. (MIRA 18:11)

CA

5

The role of alkali in [photographic] development. G. P. FAERMAN AND N. N. SHISHKINA. *J. Phys. Chem.* (U. S. S. R.) **3**, 390-405 (1932). Developer action is independent of the particular alkali used but dependent on the H-ion concn. NaOH, KOH, Na₂CO₃, K₂CO₃ with borate, phosphate and acetate buffers and a metal developer were used. Buffer action det. the constancy of action of the developer. Six tables and six graphs give the results.

F. H. RAHMANN

ASAC 55.4 METALLURGICAL LITERATURE CLASSIFICATION

The function of alkali in a developer II. Physical developing. G. P. Faerman and N. N. Shishkina. *J. Phys. Chem.* (U. S. S. R.) 5, 430 (1951); *ibid.* 20, 1352. With const. Ag^+ concn. the rate of phys. development and the rate of reduction of the Ag^+ in soln. decreases or increases with decreasing or increasing pH . For each Ag^+ concn. in the soln. there is an optimum pH for the developer. If the systems Ag^+ / Ag and oxidation-reduction have the same p. d., the velocity of development is independent of the pH . Only on longer drawn-out development do factors other than pH , such as concn. of Ag^+ ions, of developer, of acid anions, etc., have any effect. The expts. were carried out mainly on "Agfa" films with metol-citric acid developers in a pH from 1.6 to 3.0. III. An iron developer. *Ibid.* 404. In a ferro-ferric oxalate developer the developing influence remains const. over the same interval of pH as does the oxidation-reduction potential, i. e., from $pH = 4.7$.
F. H. Rathmann

ASW 11.8 DETAIL TECHNICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
BC										B-II-3									
<p>Alkali in developers. G. P. FARMAN and N. N. SHISHKINA (Photo-Kino Chem. Ind., 1935, No. 1-2, 30-36).—The role of pH in photographic developers is discussed. For a given $[Ag^+]$ there is an optimum pH for physical development. (U. S. A. (r))</p>																			
A18-51A METALLURGICAL LITERATURE CLASSIFICATION																			
FROM SYNTHESE										FROM ANALYSIS									
GROUPS										GROUPS									
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z										A B C D E F G H I J K L M N O P Q R S T U V W X Y Z									

PROCESSES AND PROPERTIES INDEX

Importance of oxidation-reduction potentials for [photo graphic] development N. N. Shishkina. *J. Photo (chem. (U. S. S. R.) 10, 848 (1967)*. The rates of development by metol (I) and by $p\text{-NH}_2\text{C}_6\text{H}_4\text{OH}$ (II) are compared. At a const. oxidation-reduction potential the d of the image developed by I is greater than that developed by II. The d rises linearly with the pH of the soln. In absence of Na_2SO_3 the development is too slow at any potential. A mixt. of Fe^{2+} and Fe^{3+} develops in presence of $\text{K}_2\text{C}_2\text{O}_4$ more rapidly than in presence of K citrate, the oxidation-reduction potentials being equal.

R C P A

454 514 METALLURGICAL LITERATURE CLASSIFICATION

34

13

Oxidation-Reduction Potentials of Developers and Rates of Development at Different Temperatures. (In Russian.) N. N. Shishkina. Zhurnal Fizicheskoi Khimii (Journal of Physical Chemistry), v. 21, Mar. 1948, p. 331-338.

Results show that the reaction of p-aminophenol and methyl p-aminophenol during development is related to the oxidation-reduction potential of the developer. Dependence on pH and temperature permits substitution of the above chemicals for each other. 15 ref.

4

THE OXIDATION-REDUCTION POTENTIAL OF A DEVELOPER AND THE RATE OF DEVELOPMENT AT DIFFERENT TEMPERATURES. N. N. Shishkina (Optical Inst., Leningrad). *J. Phys. Chem. (U.S.S.R.)* 22, 311 8(1918) (in Russian). Exposed x-ray films were developed at 19, 15, 20, and 25° with either (a) a *p*-aminophenol developer at pH 10.3 and, in parallel expts., with a metol developer at a pH varying from 9.1 to 9.5, or (b) a metol developer at pH 10.3 and, in parallel expts., with a *p*-aminophenol developer at a pH varying from 11.8 to 11.2. The variable pH was every time adjusted so that the oxidation-reduction potentials V were equal in 2 parallel expts. Then, the rates r of development in 2 parallel expts. also were almost equal when the exposure varied in the ratio 1:100 and the duration of development from 4 to 24 min. In this instance, V detd. r . Comparison of series (a) with series (b) shows that r is a linear function of V . These results show what compn. of metol developers is necessary to duplicate the r observed with *p*-aminophenol developers, and vice versa.

I. I. Bickerman

CA

The role of pH in the development of color emulsions.
G. P. Faerman and N. N. Shishkina: *Zhur. Fiz. Khim.* 25, 1026-32 (1951).--At const. exposure and developing time, the Ag image d. increases linearly with pH (cf. C.A. 27, 1934; 32, 8287). The same relation holds for dye image d. of Agfacolor pos. and neg. film. The spectrophotometric curves between 400 and 700 m μ present 3 max., the positions of which do not change with time of exposure or pH of developer. The optical ds. of the dyes in the 3 layers can be characterized by these max., and the relative concn. of dye in each layer can be calcd. as shown by Gorokhovskii, *et al.* (C.A. 46, 4401A). For the pos. film, a linear relation between pH (between 8.8 and 11.3) and d. at $\lambda = 440, 530,$ and 670 , resp., is found or between pH and relative concn. of dye in each layer. For the neg. film, the same linear relations hold at a pH of 9.1 to 11.3 at $\lambda = 440, 530,$ and 690 , resp. Consequently, the amt. of reduced Ag is proportional to the amt. of dye produced. Also, the principles of the electrochem. theory of development must remain valid for color emulsions.


Michel Boudart

SHISHKINA, N. N.

3

Electron-Microscopical Investigation of Developed Grains of a Photographic Emulsion. G. P. FAERMAN and N. N. SHISHKINA. *J. Appl. Chem. U.S.S.R.*, 1952, 25, 776-781.—Electron-microphotographs of chemically developed silver grains show that physical development occurs at the same time, especially when the developer is capable of dissolving silver halides to form complex compounds which are easily reducible. Photographic fogging appears to be a crystallization of large particles of metallic silver, similar to those obtained in physical development, only smaller in size.

Brit. Abs.



SHISHKINA, N.N.

FAYERMAN, G.P.; SHISHKINA, N.N.

Role of alkali in color film development. Usp.nauch.fot. 2:63-71 '54.
(MLRA 7:5)

(Photographic chemistry) (Color photography--Developing and
developers)

SHISHKINA, N. N.
V Dependence of the developing process on time. N. N.
Shishkina. *Uspekhi Nauch. Fot., Akad. Nauk S.S.S.R.*
Otd. Khim. Nauk 3, 195-203(1955).—The data sug-
gested that the compn. of 2 different developers which give
equiv. developing results at different temps. could be detd.
by calcul.
Eurilla Mayerle

Photo
was
MST

FAYERMAN, G.P.; SHISHKINA, N.N.

Study of the rate of reduction of silver ions with developers.

Usp.nauch.fot. no.4:164-176 '55.

(MLRA 9:4)

(Photography--Developing and developers)

S/075/60/015/004/011/030/XX
B020/B064

AUTHOR: Shishkina, N. N.
TITLE: Determination of Small Amounts of Silver in a Developed Photograph
PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 4, pp. 431 - 436

TEXT: A quick and simple method of determining silver in the individual fields of the developed and fixed "sensitogram", obtained from an ФСП-4 (FSR-4) sensitometer, is necessary for the study of several problems of the theory of the photographic process. By this method it must be possible to determine approximately $1 \cdot 10^{-5}$ g of metallic silver on an area of approximately 0.4 cm^2 with an accuracy of at least 10%; the gelatin in the film is not allowed to exert a disturbing effect; and the time of analysis should not be more than a few hours. The photometric method with dimethyl amino benzylidene rhodanine as a reagent for the silver ion is best suited for this purpose. To measure the light absorption of silver rhodanine

Card 1/3

Determination of Small Amounts of Silver in a S/075/60/015/004/011/030/XX
Developed Photograph B020/B064

suspensions, a photoelectric differential colorimeter with selenium photo-cells (ФЭК-М (FEK-M)) was used. The absorption maximum of the suspensions was found at 470 - 480 m μ , and the best light filter in this case was a blue filter of CC-8 (SS-8) glass. The optimum concentrations in the measuring solution were 0.095 N HNO₃ and 0.00075% rhodanine. The presence of gelatin has no disturbing effect on the rhodanine method. 0.004 γ Ag/ml was found to be the minimum. The error in silver determination varies from 1 to 6%. Measurements were made at silver concentrations of 0.15 - 1.8 γ /ml (Table 1). The reproducibility of determinations is shown by the agreement of the calibration curves (Fig. 1) obtained on several days, as well as by the errors of determination (Table 2) found in the parallel experiments. In addition, Table 2 gives the results of parallel determinations of silver at different points of the uniformly exposed layer, the mean error being 3 - 4%. Fig. 1 indicates that the Beer law holds in the concentration range of from 0.004 to 1 γ Ag/ml. Table 3 gives the values recommended for the amount of nitric acid, which have to be added to dissolve silver at different silver contents of the emulsion. Moreover, the final volumes of the solutions analyzed are given, in the different portions of which

Card 2/3

TEREKHOVA, R. K.; SHISHKINA, N. N.

Quantitative determination of nitrates in alkaline solutions.
Izv. vys. ucheb. zav.; khim. i khim. tekhn. 5 no.5:848-850
'62. (MIRA 16:1)

1. Saratovskiy gosudarstvennyy universitet i Saratovskiy zavod
shchelochnykh akkumulyatorov.

(Nitrates) (Alkalies)

FAYERMAN, G.P.; SHISHKINA, N.N.

Effect of the developer's pH on the quantity of developed silver
in a developed layer. Zhur.nauch.i prikl.fot.i kin. 7 no.1:26-29
Ja-F '62. (MIRA 15:3)

1. Gosudarstvennyy opticheskiy Institut imeni S.I.Vavilova.
(Photography—Developing and developers)

SHISHKINA, N.N.

Effect of the difference of potentials and of the developing time
on the changes occurring in the quantity of developed silver. Zhur.
nauch.i prikl.fot.i kin. 7 no.1:61-62 Ja-F '62. (MIRA 15:3)

1. Gosudarstvennyy opticheskiy institut imeni S.I.Vavilova.
(Photography--Developing and developers)

SHISHKINA, N.N.

Effect of the properties of the emulsion layer on developing results. Zhur.nauch.i prikl.fot.i kin. 7 no.4:257-261 J1-Ag '62. (MIRA 15:8)

1. Gosudarstvennyy opticheskiy institut imeni S.I.Vavilova.
(Photography--Developing and developers)
(Photographic emulsions)

SHISHKINA, Nina Nikolayevna; NAZAROV, Arkadiy Stepanovich;
ARTISTOV, D.V., retsenzent; GUL', V.Ye., retsenzent;
D'YAKONOVA, T.F., spets. red.; NOZDRINA, V.A., red.

[Use of polymeric films for the packaging of meat products] Primenenie polimernykh plenok dlia upakovki miaso-
produktov. Moskva, Fishchevaia promyshlennost', 1965.
131 p. (MIRA 18:7)

L 46145-66 EWT(m)/EWP(j)/I IJP(c) WW/RM
 ACC NR: AP6026738 (A) SOURCE CODE: UR/0183/66/000/003/0042/0043
 AUTHOR: Serkov, A. T.; Budnitskiy, G. A.; Chivilikhina, M. P.; Veretennikova, T. P.; Shishkina, N. P.; Kondrashova, I. A.; Muravleva, L. V.; Ordina, V. I.
 ORG: VNIIV
 TITLE: Improving the quality of viscose cord
 SOURCE: Khimicheskiye volokna, no. 3, 1966, 42-43
 TOPIC TAGS: cellulose, synthetic material, cellulose plastic, synthetic fiber
 ABSTRACT: The details of a modified procedure for manufacturing high tensile strength viscose cords are described. In essence, the procedure consists of accelerated processes of coagulation, filtration, and cord forming. It also requires the use of high purity reagents: sulfuric acid (GOST 2184-59), and ethylene oxide- and aliphatic amine derivatives as modifiers. The modified procedure does not require any new machines, only a minor adjustment of the cord spinning procedure. It is claimed that the modified procedure is capable of yielding viscose cords with tensile strength by 50-60% greater than that manufactured elsewhere in the world. Orig. art. has: 2 figures.
 SUB CODE: 674 SUBM DATE: 28Feb66/ ORIG REF: 004
 Card 1/1 UDC: 677.463

I. 24822-66 EWT(d)/EWT(m)/EWP(v)/EWP(j)/T/EWP(k)/EWP(h)/EWP(l)/ETC(m)-6
 ACC NR: AP6006955 IJP(c) (N) WW/RM SOURCE CODE: UR/0381/65/000/006/0061/0068

AUTHORS: Lange, Yu. V.; Filimonov, S. A.; Shishkina, N. V.; Pakhomov, V. V.;
Veremeyenko, S. V.; Pyrkov, B. Ye.

ORG: none

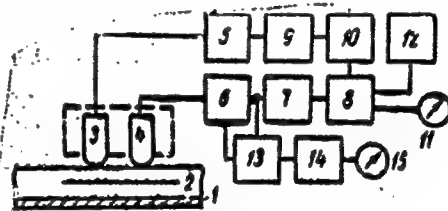
TITLE: UVFD-1 defectoscope for controlling multilayered structures and nonmetallic
parts

SOURCE: Defektoskopiya, no. 6, 1965, 61-68

TOPIC TAGS: defectoscope, diagnostic instrument, electric device, electronic circuit /UVFD-1 defectoscope

ABSTRACT: The block diagram and detailed electric circuitry of a UVFD-1 defectoscope are given. Referring to Fig. 1,

Fig. 1. Block diagram of a UVFD-1 defectoscope.



Card 1/2

UDC: 620.179.16

L 24822-66

ACC NR: AP6006955

the defectoscope consists of: 1 - metallic base, 2 - nonmetallic film deposit, 3 - emitting oscillator, 4 - receiving oscillator, 5 - generator to feed power to the vibrator, 6 - amplifier, 7 - shaper, 8 - phase-measuring circuit, 9 - phase regulator, 10 - shaper, 11 - needle indicator, 12 - relay instrument, 13 - detector for automatic regulating of amplification, 14 - amplitude measuring device, and 15 - indicator. The instrument has four types of scanner heads that operate on a frequency range 25--60 keycycle. A sketch is included for one such scanner head connected to the instrument by a coaxial cable. The instrument weighs 11 kg and is portable. It is used in conjunction with automatic recorders and is very useful for controlling nonmetallic film deposits on metallic bases and for identifying defects between the joints of multilayer structures. Orig. art. has: 4 figures.

SUB CODE: 14, 09/ SUBM DATE: 16Jun65/ ORIG REF: 005

Card 2/2

ACC NR: AP6019019

(N)

UR/0032/66/032/001/0034/0038

AUTHORS: Lange, Yu. V.; Shishkina, N. V.

39

ORG: none

B

TITLE: A study of the performance characteristics of the ultrasonic ¹⁵velocimetric method of flaw detection ¹⁴

SOURCE: Zavodskaya laboratoriya, v. 32, no. 1, 1966, 34-38

TOPIC TAGS: ultrasonic flaw detector, laminated plastic, elastic wave, lamination, phase meter, performance test/ UVFD-1 ultrasonic flaw detector ¹⁰

ABSTRACT: The results of experimental studies of the performance of the UVFD-1 velocimetric flaw detector are given. The probe head, which contains transmitting and receiving vibrators with a fixed distance ℓ between them, is placed on the surface of the article (see Fig. 1). The elastic flexural wave from the transmitting vibrator is propagated with velocity v , which is a function of the layer thickness. The propagation velocity in a flaw is lower than in a segment without a flaw. This changes the phase of the wave. Laboratory tests were made with an MOO1 galvanometer and an N-700 loop oscillograph. Tests ¹⁵were made with PT sheet textolite of 1360 x 740 x 10 mm. The velocimetric method can be used to detect laminations and fracture zones at a depth of up to 26 mm in laminated plastics and in structures containing nonmetallic layers.

Card 1/2

UDC: 620.179.16

ACC NR: AP6019019

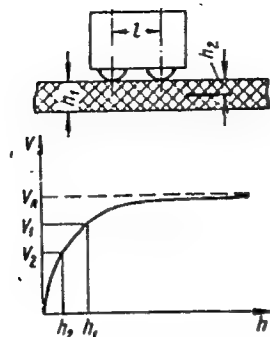


Fig. 1. V_R - limiting (surface-wave) velocity;
 V_1 - propagation velocity for h_1 ; V_2 - propagation
 velocity for h_2 .

Orig. art. has: 5 graphs and 4 formulas.

SUB CODE: 14, 11/ SUBM DATE: none/ ORIG REF: 003

Card 2/2 *eqk*

SHISHKINA, N.Ya.

Split picking cam on a mechanical loom. Obm.tekh.opyt. [MIP]
no.15:31-32 '56. (MIRA 11:11)
(Looms)

CHISTIA, A. A. and SHCHOLINTSEV, A. A.

The role of the humoral factor in the mechanism of immunity against influenza.
Arch. Biol. Sciences, Bd. 59:3, 1940, Moscow. Arch. f.d. es. Virusforschung,
Bd. 2, 1941.

CHISCHINA, O.I. and SIDOROV, A.A.

The role of phagocytic apparatus in the mechanism of immunity against influenza. Arch. Biol. Sciences, Bd. 59:20, 1940, Moscow. Arch. f.d. ges. Virusforschung, Bd. 2, 1941.

Shelton, L. L., and A. A. Sigmond

"Second Communication: The Role of the Phagocytic Apparatus of Actively Immunized Animals in the Control of Influenza Infections," ZHMEI, 3, 20, 1945

SHISKINA, O.I.

SMORODINTSEV, A.A.; SHISKINA, O.I.

Effect of tissue ferments on influenza virus. Trudy AMN SSSR 28:
5-14 '53. (MLRA 7:8)

1. Iz otdela virusologii Instituta eksperimental'noy meditsiny AMN
SSSR.

(INFLUENZA VIRUSES, effect of drugs on,
proteolytic enzymes)

(PROTEASES, effects,
on influenza viruses)

SHISHKINA, Q.I.; YURIKAS, I.A.

Comparative evaluation of methods of laboratory diagnosis of influenza.
B. Trudy AMN SSSR 28:122-138 '53. (MLRA 7:8)

1. Iz Otdela virusologii Instituta eksperimental'noy meditsiny AMN
SSSR.

(INFLUENZA, diagnosis,
laboratory technics in influenza B, comparison)

SHISHKINA, O. V.

Procedure for the Determination of Sulfate Ions in Sea Water
Tr. In-ta okeanol. AN SSSR, 8, 1954, pp 253-268

The work is devoted to a study of a gravimetric method of determining SO^{2-}_4 in sea water. The author clarifies the influence of rate of influx of BaCl_2 upon the accuracy of the analysis. He finds the absolute magnitudes of the errors in the determination of SO^{2-}_4 by various variants of the gravimetric method. He gives a precise procedure for the determination of SO^{2-}_4 in sea water with maximum accuracy. (RZhGeol, no 3, 1955)

SO: Sum. No. 639, 2 Sep 55

SHISHKIN, O. .

"On the Saline Content of Silt Waters of Sea Sediments." Acad Sci USSR,
Inst of Geochemistry and Analytic Chemistry imeni V. I. Vernadskiy, Moscow,
1955. (Dissertation for the Degree of Candidate of Chemical Sciences.)

SO: E-972, 20 Feb 56

SHISHKINA O. V.

The question of silty sea waters. O. V. Shishkina. *Trudy Inst. Okeanol., Akad. Nauk S.S.S.R.* 13, 94-9 (1955). - A study of sea silts is important in understanding oil fields and sedimentary rock deposits. Previous work on the watery exts. of silt is incorrect owing to the exchange reactions of dissolved salts. The use of bottom scoops or probes for sampling gives better results than dredging. Results show a continuous increase of alkyl. and of ammonium N with depth in core samples (from breakdown of org. substance), as in previous work. Bottom water contains 0.20-0.25 meq./l. silicic acid, and horizons from 0 to 30 cm. depth contain 1.1 meq./l. Deep ppts. contain 1.3-2.2 meq./l. Si (without salt correction). The sulfate concn. is reduced, and the sulfate-chloride ratio is 0.1077 in deep ppts., compared with 0.1380 in the bottom layer of sea water. The lowered sulfate concn. is explained by its reduction to sulfide. Na is increased and Ca is noticeably decreased with increasing depth, i.e. the Ca/Cl coeff. in deeper horizons is 0.0188. The method of isolation of silt by settling and centrifugation agrees well with expression of silty water from silt at 400 kg./sq. cm. as done in this study. Long standing of hermetically sealed silty waters causes a great increase in alkyl. (3-10 meq./l.) and a decrease in sulfate (50.5-18.3 meq./l.). Pressures up to 3000 kg./sq. cm. can be used without altering the results. Standard micro and semimicro methods of analysis are used. A. W. D.

SHISHKINA, O.V.

Salt content of water formed in ocean-bottom sediments. Dokl. AN
SSSR 105 no.6:1289-1292 D '55. (MLRA 9:4)

1. Institut okeanologii Akademii nauk SSSR. Predstavleno akademikom
A.P. Vinogradovym.
(Ocean bottom)

SHISHKINA, O. V.

A technique for securing sea silt waters and a study of their salt content. O. V. Shishkina. *Trudy Inst. Okeanogr. Akad. Nauk S.S.S.R.* 17, 148-76 (1966). The samples of silt waters were collected by pressing the specimens in a hydraulic press at as much as 550 kg./sq. cm. with gradually increasing pressure. Typical analyses of the solns. are given, with detailed description of the methods reported in the literature for small aints. of the various elements. Under pressure of 400 kg./sq. cm. it is possible to remove from silt contg. 60-70% moisture, some 85% of the soln. in the course of 4-6 hrs. The conventional analyses applied to silt waters give reproducibilities of: Br 1%, Na 0.5%, Ca 1.0%, Mg 2.6% for a 1-g. sample. G. M. Kasolapoff

SHISHKINA, O.V.

Sediment-containing waters of the Pacific and the adjoining
seas. Dokl. AN SSSR 112 no.3:470-473 Ja '57. (MLRA 10:4)

1. Institut okeanologii Akademii nauk SSSR. Predstavleno
akademikom A.P. Vinogradovym.
(Pacific Ocean--Sedimentation and deposition)

20-2-27/50

AUTHOR: Shishkina, O. V.

TITLE: Chloride-Sodium-Calcium Waters in the Quaternary Deposits of the Black Sea (Khlорidno-natriy-kal'tsiyevyye vody v chetvertichnykh otlozheniyakh Chernogo morya)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 2, pp. 259 - 262 (USSR)

ABSTRACT: One of the problems set to the expedition of the Institute (see under "A" below) was the procurement and investigation of the water from long monoliths of deposits which were obtained in various depths by means of a plunger case, system Kudinov, by the expeditionary ship "Akademik Vavilov". Layers of deposits were separated out of these columns and the water pressed off them under a pressure of 400 kg/cm². By chemical analysis it was found that beside a decreasing mineralization with increasing depth, a modification of concentration of other chief components in the amount of salt of the water also takes place, so that a water develops which differs from the marine one. Beside sulfate-free water, chloride-sodium-calcium waters were found in the Black Sea deposits. The gradual replacement of the waters of the marine type (chloride-sodium-magnesium type) by the above-mentioned ones, could be traced

Card 1/3

20-2-27/50

Chloride-Sodium-Calcium Waters in the Quaternary Deposits of the Black Sea

in a number of columns from smaller depths as well as from the central part of the sea. A column taken from 215 m depth on the Yalta traverse is described as example of the composition of such columns. Table 1 shows that all modifications of the salt content take place on the background of the decrease in the concentration of chlorine and in the entire mineralization. The reduction process of sulfates leads to their rapid decrease with increasing depth. It is characteristic that an increase in the alkaline reserve is absent. The pH value in the upper layer is 7,4, then it increases to 8 and remains unchanged to the end of the column. The bromine content slightly increases with increasing depth. The content of sodium and magnesium decreases with increasing depth, the content of potassium decreases still more. The ammonium content, however, strongly increases with increasing depth. The calcium content especially increases with increasing depth. The modification of concentration of Ca and Na are apparently connected with the exchange processes between the liquid and the solid phases. The exchange processes are supposedly favored by the inflow of larger amounts of clayey material into the Black Sea which contains Ca in the absorbing complex. The formation of chloride-sodium-calcium water in the deposits indicates a completely different mechanism of interaction between the liquid and the solid phases in

Card 2/3

SHISHKINA, O.V.

Saline composition of ooze waters of the Far East seas and the
adjacent part of the Pacific Ocean. Trudy Inst. okean 26:109-180
'58. (MIRA 11:10)

(Soviet Far East--Deep-sea deposits)

SHISHKINA, O.V.

Chemical composition of interstitial waters in the Pacific
Ocean. Trudy Inst.Okean. 33:146-164 '59. (MIRA 13:4)
(Pacific Ocean--Water--Composition) (Deep-sea deposits)

SHISHKINA, O.V.

Sulfates in interstitial waters of the Black Sea. Trudy Inst.
Okean. 33:178-193 '59. (MIRA 13:4)
(Black Sea--Water--Composition) (Sulfates)
(Deep-sea deposits)

3(9)

SOV/20-127-3-56/71

AUTHORS: Bruyevich, S. V., Shishkina, O. V.

TITLE: On the Palaeohydrology of the Black Sea During Late Quaternary

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 3,
pp 673 - 676 (USSR)

ABSTRACT: After a short survey of publications on the investigation of the hydrology of the Black Sea basin (Ref's 1,2) the authors mention a non-palaeontological method for the hydrological characterization of the geological past which was used on the expedition ship of the institute mentioned in the Association (first author) in April 1949. This method is a direct determination of the chlorine content (salt content) of the squeezed-out base solutions with which the sediments to be investigated are saturated (Ref 4). Thus a considerable decrease of the salt content in the buried waters of the Novo-Evksinskiy (New Euxinian) Basin (up to 4‰ chlorine, 7.25‰ salt content) as compared with the recent waters near the ground (12.2-12.4‰ chlorine content) could be found. This confirms completely the assumption of N.I. Andrusov, A. D. Arkhangel'skiy and N. M. Strakhov that the Black Sea was subjected to a considerable de-

Card 1/3

On the Palaeohydrology of the Black Sea During Late
Quaternary

SOV/20-127-3-56/71

salification during the New-Euxinian phase of its development. This was confirmed by the second author (Ref 7) in 1956. Table 1 and figure 1 show that in the mass of monoliths the chlorine content of the buried waters increases linearly or almost linearly in upward direction. This indicates very even uninterrupted salification of the Black Sea which is still continued. This conclusion is based upon objective material and agrees with reference 6 according to which the complex of New-Euxinian brackish organisms is displaced by marine mediterranean varieties. Thanks to the linear character of the change of the chlorine content the problem of diffusion can be solved. The distribution of the chlorine content along the length of the monolith is determined by the actual change of chlorine content in water. A gravitational mixing of the solutions is possible only in the uppermost sediment strata with a high water content. The salification of the Black Sea may be related to increasing dryness of the climate, rising surface of the ocean in connection with the end of the last glacial phase, sporadic regression of the glaciers during the post-glacial period, and finally to the probable depression of the continent around the straits of the Black Sea by erosion near the ground or the depression of the entire

Card 2/3

On the Palaeohydrology of the Black Sea During Late
Quaternary

SOV/20-127-5-56/71

region of the Black Sea. The author concludes that the ever-increasing water exchange with the Mediterranean and not the change of climate is the decisive factor of salification. This theory does not exclude cyclic climatic fluctuations; but the water exchange dominates over the climatic factor. Salification takes place at a rate of $\sim 0.20 - 0.25\%$ of chlorine content per 1000 years, to give a rough approximation. There are 1 figure, 1 table, and 12 references, 9 of which are Soviet.

ASSOCIATION: Institut okeanologii Akademii nauk SSSR (Institute of Oceanography of the Academy of Sciences, USSR)

PRESENTED: March 13, 1959, by S. I. Mironov, Academician

SUBMITTED: March 10, 1959

Card 3/3

5 (0)

AUTHORS: Krasintseva, V. V., Shishkina, O. V. SOV/20-128-4-50/65

TITLE: The Problem of Boron Distribution in Marine Deposits

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 4, pp 815 - 817 (USSR)

ABSTRACT: The ocean is one of the two main sources of boron and boron deposits in the zone of hypergenesis. The seawater contains considerable boron quantities ($4.6 \cdot 10^{-4}\%$). The concentration of boron in the open part of most of the seas and of the ocean is proportional to that of chlorine and the ratio boron: chlorine is constant = $2.39 \cdot 10^{-4}\%$ (Ref 3). The boron content in clayey marine deposits is 10-100 times higher than in the water. According to Gol'dshmidt (Ref 4) the boron content in the grey mud is equal to $3 \cdot 10^{-3}\%$, in the brown one it amounts to $1.5 \cdot 10^{-2}\%$. Mrs. S. G. Tseytlin found $4.36 \cdot 10^{-7}\%$ boron in the mud water of the Caspian Sea. The problem of the distribution of boron between the liquid and solid phase of the deposit is not yet solved. The authors investigated this problem in the Black Sea and in the Pacific. The recent deposits of the Black Sea

Card 1/3

The Problem of Boron Distribution in Marine Deposits SOV/20-128-4-50/65

(Table 1) have mostly a high boron content. It decreases somewhat with increasing depth. The high boron content is here possibly connected with a relatively high content of organic substance. This substance is especially high in samples rich in boron. A rapid decrease of the boron content in mud waters of the chloride-sodium-calcium type is possibly connected with a molecular sorption of calcium borates difficult to solve which increase by approximately the 3-fold with the increase of the concentration of the calcium ions (Ref 9). The main mass of chlorine carries with it an only small part of the boron with the solidification of the muds and the precipitation of the mud water from the latter. The major part of the boron remains in the sedimentary rocks and may partly pass over into the solution in the leaching of the rocks. Accordingly, the ratio B/Cl in the seam water is bound to be lower than that in seawater of chloride-sodium-calcium type and somewhat higher in the water of chloride-alkaline type. In underground waters developing in the leaching of sedimentary rocks of marine origin B/Cl may rise by the 10-100-fold. Table 1 shows pertinent data referred to the Pacific. Red clays are relatively richer in boron than calcareous clays and grey clays. This is probably caused by the manganese

Card 2/3

The Problem of Boron Distribution in Marine Deposits SOV/20-128-4-50/65

concretions which contain boron in considerable quantity. Up to 20% of the total boron pass over into the solution in the leaching of these clays. The highest content of total boron was found in the diatom muds. The content of organic substance is here the highest, too. According to A. P. Vinogradov (Ref 10) the marine plant organisms are richer in boron than the animal organisms. On the other hand, the mud water of the diatom deposits is poor in boron. The Globigerina mud contains the smallest total boron quantity of all deposits of the Pacific. Professor S. V. Bruyevich assisted with valuable advice. There are 1 table and 11 references, 7 of which are Soviet.

ASSOCIATION: Institut okeanologii Akademii nauk SSSR (Institute of Oceanography of the Academy of Sciences, USSR)

PRESENTED: April 24, 1959, by A. A. Grigor'yev, Academician

SUBMITTED: April 24, 1959

Card 3/3

SHISHKINA, O. . . .

Meeting of oceanographers. IUn.tekh. 4 no.7:52-55 J1 '60.
(MIRA 13:9)

(Oceanography--Congresses)

S/169/62/000/010/053/071
D228/D307

AUTHOR: Shishlina, O.V.

TITLE: Water types formed in marine sediments during diagenesis

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1962, 7, abstract 10V59 (In collection: Sovrem. osadki morey i okeanov, M., IN SSSR, 1961, 549-559)

TEXT: A classification is suggested for the muddy waters (ground solutions) of marine sediments. The first, marine type covers waters in which the correlations between the chief chemical components are close to those in ocean water. In this type 2 forms of water are distinguishable according to the nature of the change of their alkali reserve; in comparison with benthonic water one has an elevated, and the other has a reduced, concentration of the latter. A characteristic feature of sediments with the marine type of muddy water is their low organic-matter content. The second, chloride-alkali type and the third, chloride-sodiocalcic type of

Card 1/2

Water types formed ...

S/169/62/000/010/053/071
D228/D307

muddy sediment waters are profoundly metamorphosed during the diagenesis of marine sediments by even sea-water. The author dwells in detail on the processes of metamorphization of sea-water into muddy water of the second and third types and shows the fallibility of opinions, relating their origin to other processes.

[Abstracter's note: Complete translation]

Card 2/2

SHISHKINA, O.V.

Some data on the salt composition of silt waters in the Sea of Azov.
Okeanologiya 1 no.4:646-650 '61. (MIRA 14:11)

1. Institut okeanologii AN SSSR.
(Azov, Sea of--Water--Composition)

SHISHKINA, O.V.

Oxidation-reduction potential of the upper ten-meter stratum
of Quaternary deposits of the Black Sea. Dokl. AN SSSR 139
no.5:1218-1220 Ag / '61. (MIRA 14:8)

1. Predstavleno akademikom N.M. Strakhovym.
(Black Sea--Sediments (Geology))
(Oxidation-reduction reaction)

SHISHKEINA, O.V.; BYKOVA, V.S.

Chemical composition of interstitial waters in the Atlantic Ocean.
Trudy MGI 25:187-194 '62. (MIRA 15:2)
(Atlantic Ocean--Sea water--Composition)

SHISHKINA, O.V.

Some results of studying interstitial waters of the Black Sea.
Trudy Inst. okean. 54:47-57 '62. (MIRA 16:6)
(Black Sea--Sea water--Analysis)

SHISHKINA, O.V.; ZHELEZNOVA, A.A.

Chlorinity of the interstitial water in the northern part of the Indian Ocean. Trudy Inst. okean. 64:144-153 '64.

Oxidation-reduction potential and the pH of sediments in the northern part of the Indian Ocean. Ibid.:236-249
(MIRA 17:7)

PAVLOVA, G.A.; SHISHKINA, O.V.

Method of determining iodine in interstitial waters. Trudy Inst. okean.
67:165-176 '64. (MIRA 17:12)

SHLOKHINA, O.V.

Chemical composition of oceanic silty waters. Geokhimiia no.6:564-
572 Je '64. (MIRA 18:7)

1. Institut okeanologii AN SSSR, Moskva.

SHISHKINA, O.V.; PAVLOVA, G.A.

Distribution of iodine in marine and oceanic silts and silt waters.
Geokhimiia no.6:739-746 Je '65. (MIRA 18:7)

1. Institut of Oceanology, Academy of Sciences, U.S.S.R., Moscow.

KORITSKIY, K.I.; Prinimali uchastiye: SHISHKINA, R.M., ispolnyayushchaya
obyazannosti starshego nauchnogo sotrudnika; YAGUBOVA, Yu.G.;
MARININA, Yu.S., mladshiy nauchnyy sotrudnik

Core yarn, its structure and properties. Nauch.-issl.trudy
TSNIIKHBI '60 [publ. '62]:25-55 (MIRA 18:2)

1. 1. 1. 1.

Core yung with large center. (1962-1963) (1964-1965)
1962 g. 175-189 (1964-1965)

ZAGRANICHNIY, V.I.; POLYAKOVA, Z.A.; Prinimali uchastiye: MAZUROVA, G.Ye.;
SHISHKINA, S.S.

Solubility in water of melamine and some of its derivatives.
Khim.prom. no.9:692-694 S '63. (MIRA 16:12)

SOV77-4-2-15/18

Successes of Soviet Electrophotography; A Scientific and Technical Conference on Questions of Electrophotography

K.M. Vinogradov described some of the features of the cathode and liquid methods of electrophotographic development. Yu. Ye. Karpashko described his report to the criterion of light sensitivity of the electrophotographic process. After the reports a discussion took place on methods of determining the light sensitivity of electrophotographic layers. A.M. Chernyshev spoke on the prospects of developing polygraphic processes using electric and magnetic forces. O.V. Gromov (speaking also for I.I. Zhilevich, A.A. Sukhly, V.A. Gordayeva, A.S. Fausta and Yu. I. Kevlaytis) reported on the development of electrophotographic reproducing equipment. A.S. Fausta (speaking also for I.I. Zhilevich, A.S. Boriso- vich, M.M. Golovidska and M.I. Rutkauskas) reported on the use of electrophotographic methods in recording oscillograms and other recording instruments. V.P. Iurchenko (speaking also for L.N. Balin) spoke on the possibility of electrophotographically recording images from electron-beam tubes. L.S. Korol' (speaking also for M.M. Markovich, T.I. Kozlovskaya, B.I. Kozlovskaya, I.A. Rykova, I.I. Zhilevich, A.A. Sukhly, V.A. Gordayeva, A.S. Fausta and Yu. I. Kevlaytis) gave a detailed description of laboratory and machine methods of producing photoresist conductor papers (zinc oxide was used). A.A. Sukhly (speaking also for I.I. Zhilevich, O.V. Gromov, V.I. Gontsev, M.V. Pesotov and T.M. Ger) described a laboratory and industrial machine for producing photoresist conductor papers. T.M. Shalabina (speaking also for Y.A. Oskan) reported on a method of examining electrophotographic materials using an a/c bridge. S.I. Khotyanovich (speaking also for A.I. Gikens and I.S. Zhilevskaya) spoke on developing materials for electrophotography and ferrography, including developers giving a "reverse" image. B.I. Pikhonov reviewed methods of measuring the electrostatic potentials of electrophotographic layers, stressing that the oscillating electrode should not be placed above a layer with varying potential as this causes self-discharge. B.V. Kravtsov (speaking also for A.V. Gerasimov, A.A. Golopov and I.S. Zhilevskaya) gave a detailed description of producing ret- icles produced by the grid technique. A.S. Fausta (speaking also for I.I. Zhilevich, A.A. Sukhly, V.A. Gordayeva, A.S. Fausta and Yu. I. Kevlaytis) gave a historical review of the development of electrophotographic methods in which he said tribute to the work of the Scientific Research Institute of Electrophotography in Vil'nyus and the Institut Poligraficheskogo Mashinostroyeniya (Moskva)-(Polygraphic Machine- Building Institute (Moscow)). Debates were then held

Card 6/10

VORONKOVA, N.M.; MELESHKO, K.Ye.; SEMENCHENKO, I.V.; SNYTKIN, A.V.;
SHISHKINA, T.A.

Use of the spectrovisor in studying the spectral brightness of
landscape elements. Geod. i kart. no. 12:20-25 D '60.

(Spectrophotometry) (Aerial photogrammetry) (MIRA 14:1)